

**MnO<sub>2</sub>@Ce6 loaded mesenchymal stem cells as “oxygen-laden  
guided-missile” for enhanced photodynamic therapy on lung cancer**

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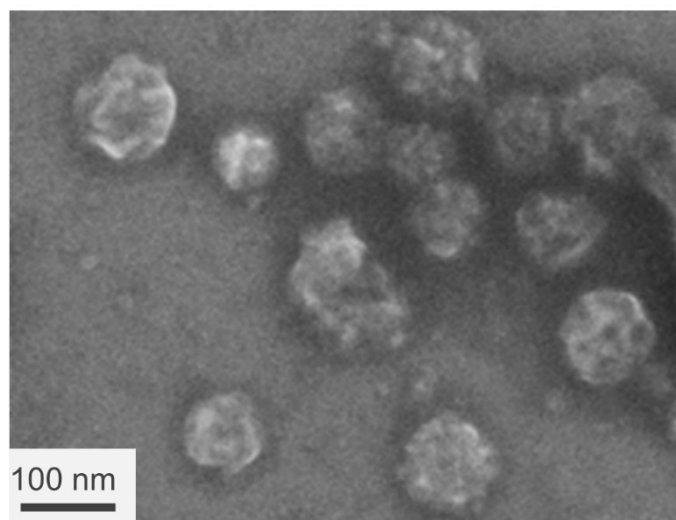


Fig.S1 SEM images of MnO<sub>2</sub>@Ce6 NPs.

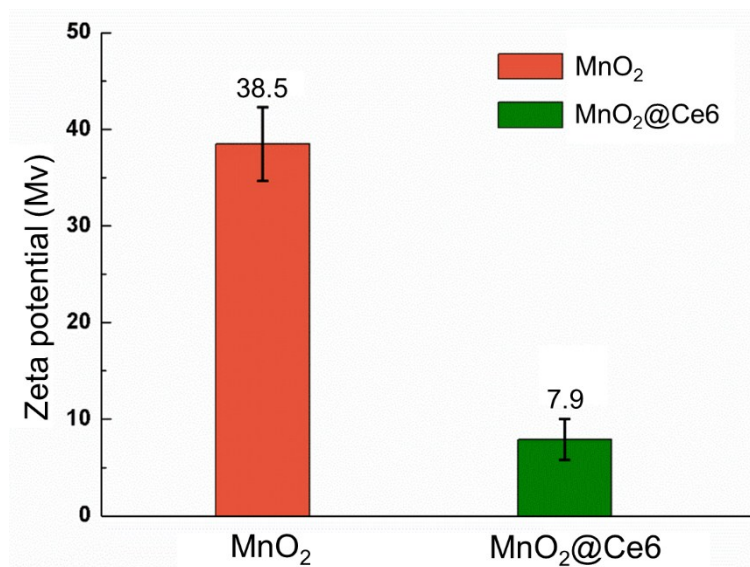


Fig.S2 zeta potential of MnO<sub>2</sub> and MnO<sub>2</sub>@Ce6.

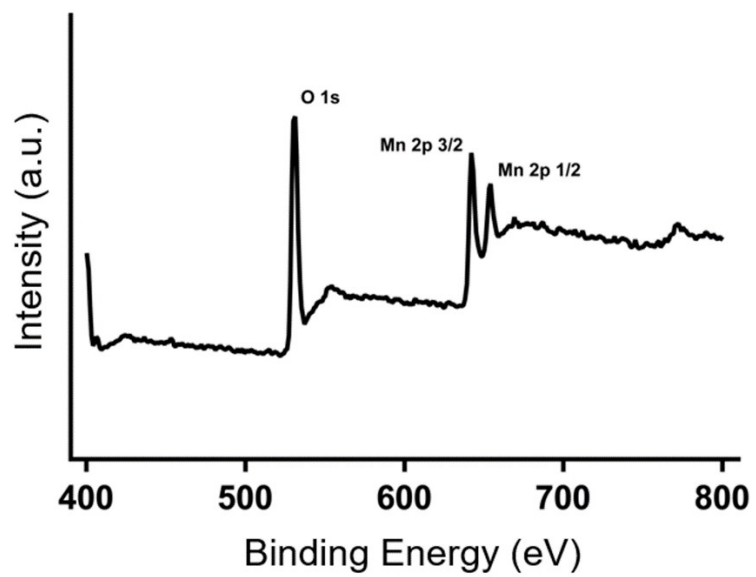


Fig. S3 XPS spectra of MnO<sub>2</sub>

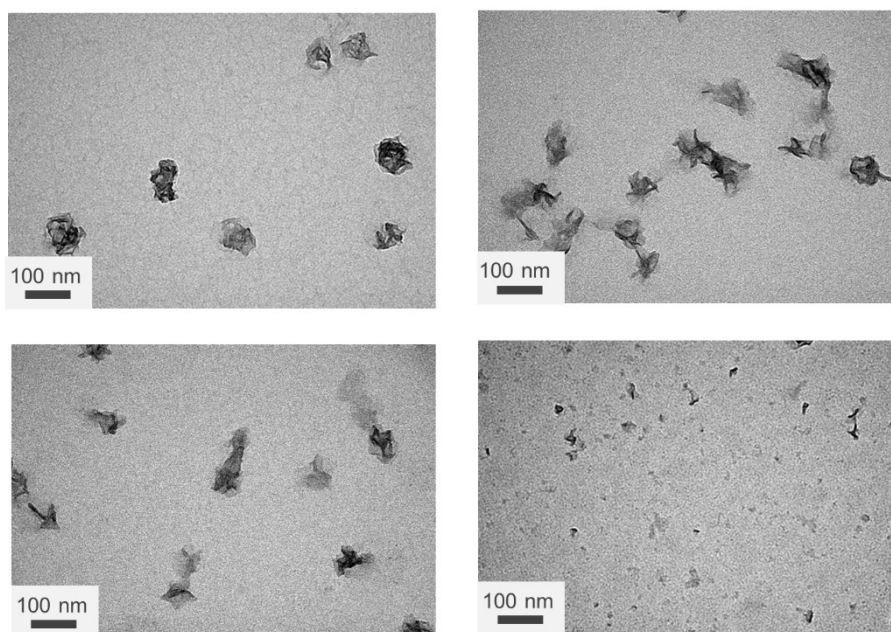


Fig.S4 TEM images of MnO<sub>2</sub>@Ce6 degradation process in 100μM H<sub>2</sub>O<sub>2</sub>

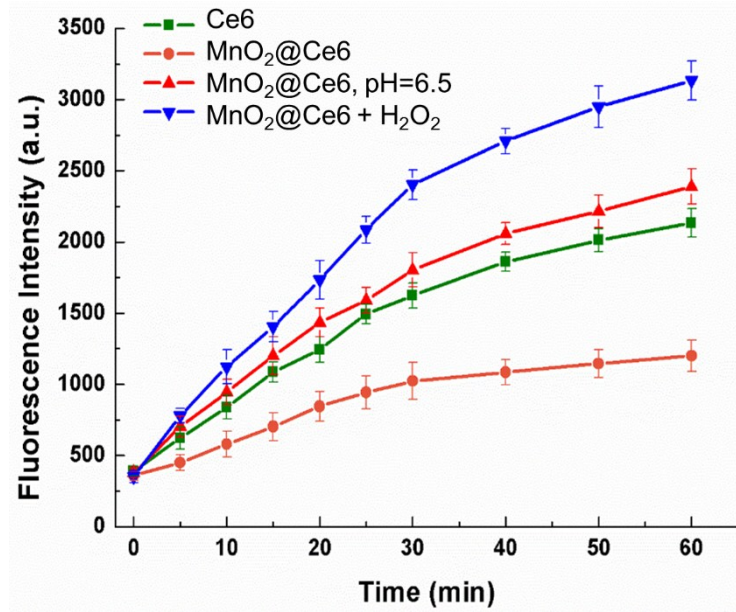


Fig.S5 Time-course singlet oxygen release of Ce6 and MnO<sub>2</sub>@Ce6 NPs in different conditions.

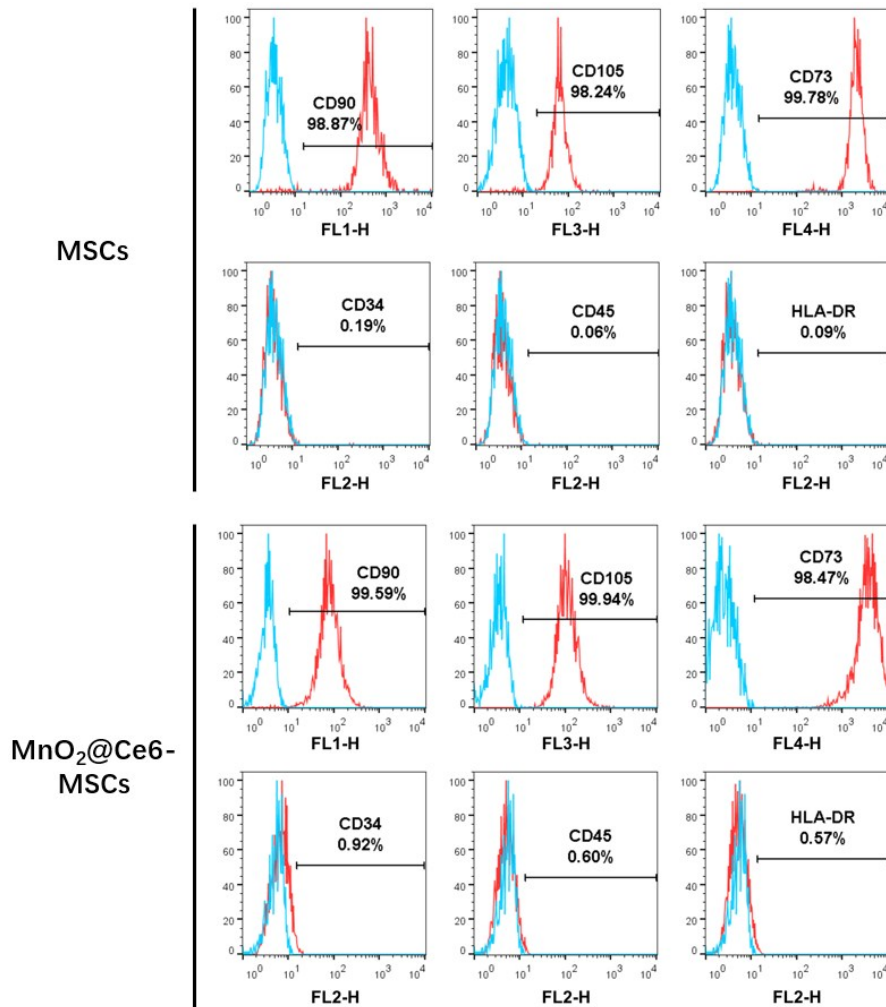


Fig.S6 Immunophenotype identification of MSCs before and after loading MnO<sub>2</sub>@Ce6.

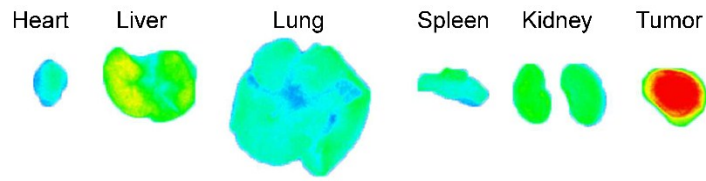


Fig. S7 Fluorescence images of excised organs and tumor at 24 h post-injection



Fig. S8 Photographs of mice treated with saline and  $\text{MnO}_2@$ Ce6-MSCs after 14 days

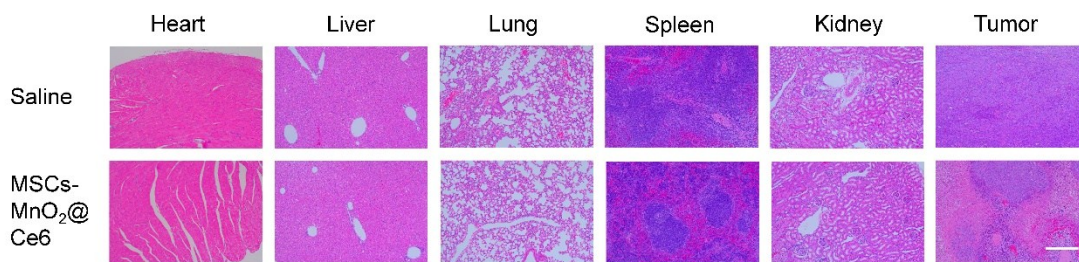


Fig.S9 H&E sections of main organs and tumor after treatment for 14 days  
(Scale bar: 200  $\mu\text{m}$ )